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Department of Agriculture



DWARF FRUIT TREES

Make the Ideal Orchard
for your Home Garden . . .

ESPALIERS--trained Fruit Trees

The Pride of Old European Gardens
Now--proudly--American . . .

HENRY LEUTHARDT
Port Chester • New York

Specializing Exclusively,

CONDITIONS OF SALE

Terms

Our terms are strictly cash with order. Express C. O. D. orders must be accompanied by one-fourth of the amount of the order as a guarantee. To those who wish charge accounts, our terms are 30 days from date of invoice, net. Charge accounts are extended to customers who have established credit with us in the past, or satisfactory references from unknown parties. Interest at 2% per month to be charged after maturity.

Make check or money order payable to Henry Leuthardt.

Packing or Crating

There will be a minimum charge of 50c added to orders less than \$10. On orders amounting to \$10. or over, add 5%.

Shipping Season

Transplanting can be done successfully in the Spring or Fall, as either season is equally good. Our Spring Shipping Season commences about March 15th and continues until late May. Our Fall Shipping Season starts around October 15th and continues through December 31st, providing the soil is workable.

Due to certain handicaps, if customers request shipment to arrive at a specified time, we make exceptions only in such instances. Order Early—as orders are, filled strictly in rotation as they are received.

NOTE: If you have difficulty making your selection, please send us your space measurements and we will offer you our best suggestions. If your requirements call for items not listed or sizes not quoted, please communicate with us, and we will give you an immediate reply as to whether or not we can furnish them.

Shipping Facilities

In ordering nursery stock our customers are requested to state explicitly the quantity, sizes and the varieties they wish. Give careful and definite shipping address to avoid mistakes in delivery.

We make shipments by Express Collect or Parcel Post. All Express Shipments are insured. When losses occur by detention or mishandling, claim should at once be made on the Transportation Company by the Consignee and notice sent to us.

Parcel Post shipments are not insured and travel at the risk of the buyer. We do not suggest parcel post shipments if there is an express station within limits. It is sometimes necessary to cut back tops of trees to comply with parcel post regulations for maximum measurements of parcels. This does not injure the trees, as tops should be pruned back when planting.

"Victory Gardens" Helped Win the War. They Will Help Win the Peace by Producing MORE Fruit and Vegetables

The United States Department of Agriculture is asking the co-operation of Nurserymen to stress the importance of growing more fruit trees at this time. Because of labor and transportation problems, there will be a shortage of fruit throughout the Nation and prices will be considerably higher unless home gardeners, farmers and fruit growers heed the warning.

Therefore, we urge you to plan now to include fruit trees in your "Peace" Garden. No home grounds, whether large or small, should be without fruit trees—the product of which contribute greatly to healthful and enjoyable meals.

Our catalog contains a choice selection of trees suitable for a variety of purposes. Look it over! Select the trees best suited to your requirements and send us your order now.

Plant fruit trees now and see them bear fruit next year. There is nothing like fresh fruit on the table. Unless you can enjoy picking and eating fully ripe fruit from your backyard, you will never know the tender, juicy and fine flavor fresh fruit has to offer.

Plant Your "Peace" Garden Now!

Don't Put It Off!

Our men and women are returning. They will turn to gardening which has become a very popular outdoor sport. The garden has become a center of entertainment, rendering plenty exercise both mentally and physically. The increasing demand for our fruit trees will really exceed the available supply, because millions of people are now more garden-minded than ever before. Orders will be filled in rotation. We urge you to send us your order now—Delay will result in disappointment.

**Buy Now and
"KEEP 'EM GROWING"
Is Our Motto in the
Onward March to Peace
and Plenty.**

Dwarf and Semi-Dwarf Fruit Trees

Just the trees for your Peace Garden. Whether your space is small or large—grow an orchard in your yard. Extremely Dwarf trees grow less than half as tall as standard size trees—bearing a generous crop of bigger, more luscious and richly colored fruit than larger trees do. No waiting years for fruit—dwarf fruit trees come into bearing very early. As a general rule, all dwarf fruit trees are fruit bearing at 3 years, with the exception of peaches and nectarines which varieties bear at 2 years. Under normal conditions, dwarf trees should bear fruit the following year after planting.

Leuthardt's Dwarf fruit trees are all healthy, hardy specimens, carefully chosen and tried for their suitability to this country's soil and climate. It will pay you to plant Northern grown fruit trees that have proven most satisfactory to growers throughout the United States because of the extra strength and hardiness our rigorous climate develops in them.

The Dwarf Apple Trees are grafted on Malling Stock. Mostly on East Malling No. 9 understock, approved by the East Malling Experimental Station in England. There are also certain varieties grafted on No. 1, 2, 3 or 7, for reasons which we found necessary after long years of experimentation.

This root stock is the real dwarf understock, making our trees very dwarf in growth and far superior in quality. Our pears are grafted on Quince, Peach, Apricot, and Nectarine varieties on Almond; and Plums on St. Julien.

Select and grow the very choicest varieties which are neither to be obtained in the stores or never reach the markets because, due to their very fine qualities, they cannot be used commercially. Only the Home Owner can grow these special varieties and let the fruit stay on the trees until they have reached their peak of ripeness and flavor. Until you can enjoy picking and eating, tender, juicy, fully ripe fruit from your backyard—you will never know what the real fresh fruit flavor is like.

When you buy a Leuthardt's Dwarf fruit tree, you can rest assured you are dealing with a reliable house built through hard work, honesty and fair dealings. You will find our stock sturdy, heavy rooted, true to name and quality, and free from diseases. Our 20 years of progress, satisfied customers and repeated orders is our guarantee. You will be most delighted with our fine class of nursery stock.

Dwarfer Dwarf Fruit Trees

Semi-Dwarf Fruit Trees

*are available in the varieties and sizes listed below.
Please specify on your order, if you desire the
Dwarfer Dwarf or Semi-Dwarf to avoid errors.*

Varieties	1 year Each	2 year Each (partly branched)	3 year Each (well branched)	5-6 year specimen Each (extra well branched)
Apple	\$2.50	\$3.75	\$5.00	\$9.00
Crab Apple	-----	-----	5.00	9.00
Pear	2.50	3.75	5.00	9.00
Plum	2.50	3.75	5.00	9.00
Quince	2.50	3.75	5.00	9.00
Peach	2.50	3.75	5.00	-----
Nectarine	2.50	3.75	-----	-----
Apr. cot	2.50	3.75	5.00	-----
Sweet Cherry	2.50	3.75	5.00	-----
Sou. Cherry	2.50	3.75	5.00	-----
Hilbert-Nut	-----	3.75	5.00	-----
Walnut	-----	-----	-----	9.00



Dwarf Apple Bearing Its Third Crop

Courtesy H.B. Tukey, Geneva Exp. Station

NOTE: Dwarf Apple trees, on Malling IX Rootstock, may be planted as near as 8 feet apart either way. For all other Dwarfer Dwarf Fruit varieties, allow 10 feet distance between the trees either way. Plant all Semi-Dwarf Fruit trees 15 feet apart either way. But if space permits, fruit trees may be planted further apart if desired.

Dwarfer Dwarf and Semi-Dwarf Varieties

- APPLE**—Red McIntosh, Wealthy, Fameuse, R.I. Greening, Red Astrachan, Delicious, Cortland, Stayman Winesap, Duchess of Oldenburg, Yellow Transparent, Cox's Orange, Gravenstein, A.G. Russet, Jonathan, Redwin Spy, Early Harvest, Lobo, Northern Spy, Golden Delicious, Ribston Pippin, Rome Beauty, Golden Russet, Melba, Yellow Delicious, Alexander, Blenheim Orange, Spitzenberg, Yellow Newtown, Baldwin, Grimes Golden, Williams Early Red, Sweet Bough, Flaming Triumph, Anoka, Richard Delicious is a fine apple and far superior in flavor and quality than the Delicious.
- CRABB APPLE**—Hylsop.
- PEAR**—Seckel, Flemish Beauty, Bartlett, Duchess d'Angouleme, Clapp's Favorite, Kieffer, Beurre Bosc, Duchess de Merode, Sheldon, Wm. Nellis, Old Home, Easter, Gorham, Howell, Beurre d'Anjou. Doyenne de Comice, finest of pear varieties. This is the pear which has been marketed under a trade name as "Royal Rivera."
- PLUM**—Reine Claude, Abundance, German Prune, Italian Prune, Burbank, Damson, Red June, Stanley Prune, Bradshaw, Imp. Epineuse.
- PLUM**—Reine Claude, Abundance, Burbank, Damson, Red June, Bradshaw, Imp. Epineuse, Kelsey, Shire, Mamouth Gold, Moor's Attic, Lombard, Monarch.
- PRUNE**—German Prune, Italian Prune, Stanley Prune, Imp. French, Coates, Fleenburg.
- PEACH**—Champion, Carman, Elberta, Rochester, Crawford, Golden Jubilee, Valliant, Belle of Georgia, Hiley, Eclipse, J. H. Hale, Red Bird, Golden East, Rio Oso Gem, Cumberland, Hale Haven.
- APRICOT**—Moorpark, Early Golden, Alexander, Superb, Hungarian, Perfection. Riland plant with Perfection.
- NECTARINE**—Red Roman, Hunter, Boston, Victoria, Newton, Napier, Humboldt, Sure Crop.
- QUINCE**—Orange, Champion, Pineapple.
- SWEET CHERRY**—Windsor, Black Tartarian, Bing, Yellow Spanish, Napoleon, Lambert, Royal Anne, Ostheimer Weichsel.
- SOUR CHERRY**—Montmorency, Early Richmond, English Morello.
- FILBERT NUT**—They are entirely hardy and fruit profusely when quite young. Filberts are self-sterile, but 2 or more should be planted to aid cross-pollination. DuChilly, Barcellona.
- BLACK WALNUT**—Thomas, Stabler, Ohio, Horton, Len Eyck, Heartnut.



Early McIntosh Dwarf Apple in Blossom

Courtesy H. B. Tukey, Geneva Exp. Station

NOTE: Our trees may be slightly higher in comparison to prices quoted by other nurseries . . . but, our trees are guaranteed to be the real Dwarf trees grafted on true Malling root stock, Nos. 9, 1, 2, and 7, according to their special needs. We are probably the only growers in America who keenly discriminate between Malling Strains for each particular purpose. Secondly, our stock consists of a large selection of fruit varieties that were introduced before the Embargo and are now scarce in this country. Those who lived or traveled abroad will easily recognize these varieties in our catalog. Our 25 years' experience in growing fruit trees and Espaliers under American Conditions is evidence our trees will thrive well wherever other fruit trees grow.



Dwarf Apple in Fruit

Courtesy H. B. Tukey, Geneva Exp. Station

NECTARINES—The tree of the Nectarine to all appearance resembles the Peach tree. In growth, habit, and soils required, it is similar to the Peach family. The fruit differs from the peach in that the skin is smooth, and the rich, aromatic flesh has a flavor all its own. The Nectarine is an exceedingly delicious dessert fruit.

CUSTOMERS LIKE OUR DWARF FRUIT TREES

Extracts from a few of many letters received daily:

Dear Sir:

The trees arrived March 27th, 1945 and were planted immediately. Much water was used. The trees are very fine.

I hope to order more next year.

Very truly yours,

MRS. B. W. WHITFIELD, Murphy, North Carolina

Dear Sirs:

I wish to thank you very much for the expeditious manner in which you handled my order for fruit trees.

All of the trees have been planted and I feel rather certain that they should prosper in the new surroundings.

Again thanking you for your fine service, I remain,

Very truly yours,

JACK G. LEO, New York City, N. Y.

Dear Mr. Leuthardt:

I enclose order for dwarf trees for Mr. Davis Wallbridge of Dewitt, New York. I attach check for \$162.00.

Your trees were so superior to any I have had that it was a pleasure to recommend them to Mr. Wallbridge.

Thanks very much for your promptness in replying.

Very truly yours,

A. W. JOHNSTON, Syracuse, N. Y.

My dear sir:

The trees arrived in perfect condition and I planted them at once. They were fine ones and the grape vines the finest I ever purchased from anyone.

I have just checked over my lot of choice Dwarf trees and every one looks to have come through perfect including the ones you sent me last Fall.

A friend of mine, Mr. Monroe said he was going to order some of you. We will be doing more business from time to time and many thanks for the choice trees you sent me.

Sincerely yours,

JOHN D. RAKE, Monroe, New York

Gentlemen:

We also wish to say at this time that we have been receiving very fine material from you which, in every instance, has pleased the customer. Your trees are not only very symmetrical and always clean, but seem to grow well after being planted.

Truly yours,

I. E. ILGENFRITZ SONS, Co., Monroe, Michigan

Dear Mr. Leuthardt:

You've shipped me four trees, that are trees and you've filled your guarantee of satisfaction. Nature does not make trees in exact duplicate, all of these are much better than any of the earlier shipment that I received, but two are show pieces, real beauties, one has a shape that puts various catalogues I've seen, to shame. Two are absolute beauties. One, I would not sell for \$5,000.

Now I feel as if I can invite some friends of mine that bought the \$2.50 stuff sold elsewhere over to my little group to see some real trees! The ten that I now have may be all that I'll want for a while, but when I buy more they will come from Leuthardt.

Very truly yours,

E. W. HOLDEN, Pittsfield, Mass.

Dear Mr. Leuthardt:

The four Dwarf apple trees were received last week in good condition. They were all splendid trees in every respect.

I planted the trees two days after receipt, thereof following directions carefully. I believe they will all come along nicely.

Your trees were all that you claimed for them, and I am looking forward to securing more trees possibly on a small scale in the near future.

Very truly yours,

W. E. KAVENAUUGH, Windsor, Vermont

"Espaliers"

THE TRELLIS-TRAINED FRUIT TREES
ARE DECORATIVE AND FRUITFUL

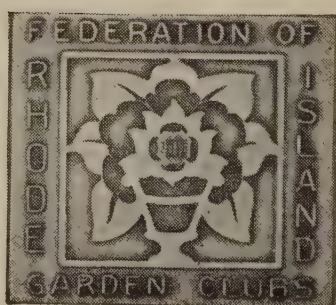
"A Luxury of the Wealthy Now Within Reach of All"

Dwarf Espalier Fruit Trees were devised by clever European Horticulturists to make the most of limited space otherwise wasted. For centuries, the Old World castles and estates have relied on Espalier trees for decoration, symmetry and utility. These intriguing Espalier forms are the result of traditional Old World Charms combined with modern American needs and uses. It remained for Henry Leuthardt, America's Pioneer Espalier Specialist, whose family has been training Espaliers for generations in Switzerland, to develop these exquisite trees suitable for this country's soil and conditions.

At the age of 13, he served his apprenticeship under Old World master gardeners. He studied the science of botany at European universities and was awarded a medal by the University of Strasbourg for proficiency in the art of training Espalier fruit trees.

Coming to the United States, Henry Leuthardt devoted his life work in growing and training Espaliers. He has won honorary mention and awards at various Horticultural shows throughout the country. Some of his plantings have been viewed at Gardens on Parade, New York World's Fair; George Washington's Home, Mount Vernon, Virginia; The Metropolitan Museum of Art, Fort Tyron Park, New York; and Gardens of the Nations, Radio City, New York City.

Below Are Some of the Medals awarded Henry Leuthardt for perfection in the art of training Espalier Fruit Trees.



Guaranteed—Genuine Dwarf Trained Espaliers

Our Espaliers, grown in New York State, have proven their hardiness and resiliency over and over again—and especially during the extreme cold and heavy frost of the past winter.

Espaliers grown on the Western Coast and sold here in the East have not the same capacity of surviving our zero winters as Eastern grown Espaliers. Oregon grown trees have never experienced sub-zero weather and are in danger of losing their main branches thus resulting in an imperfect Espalier when subjected to our cold winters.

We grow and train into Espalier forms only those varieties, which, after years of experimenting, have given us the most satisfactory results. When you order direct from us, you are sure to get a Genuine Eastern Grown Leuthardt Espalier that is guaranteed to thrive well in your climate.

The average Espalier we offer for sale has been in training for a period of six years or more—and is the result of faithful care and a perfect knowledge of the art of pruning. Only the finest root stock is used and as each tree is trained on sound biological laws, it is guaranteed to keep its shape.

Leuthardt offers a wider variety of forms suitable for many purposes. The slight difference in price is more than compensated for by the better quality trees we offer—and no better stock of Espalier trees can be found anywhere in the world.

ESPALIER VARIETIES

APPLE—Red McIntosh, Wealthy, Fameuse, R. I. Greening, Delicious, Cortland, Duchess of Oldenburg, Early Harvest, Yellow Transparent, Northern Spy.

PEAR—Seckel, Flemish Beauty, Bartlett, Duchess d'Angouleme, Clapp's Favorite, Kieffer, Beurre Bosc, Sheldon.

PLUM—Reine Claude, Abundance, German Prune, Santa Rosa, Italian Prune, Burbank, Stanley Prune, Red June.

PEACH—Champion, Carman, Elberta, Rochester, Crawford, Golden Jubilee, Hiley, J. H. Hale, Valliant, Belle of Georgia.

APRICOT—Moorpark, Riland, Perfection, Alexander.

NECTARINE—Red Roman, Hunter, Boston, Napier, Victoria.

USES OF ESPALIER FRUIT TREES

Espalier Fruit Trees trained in many different patterns adapt themselves to a variety of places. You may—

- (1) Plant Espaliers below windows—between windows.
- (2) Set them against walls, fences, trellises.
- (3) Train them on leaders at the corner of buildings
- (4) Use these trees in the open, along paths, driveways, etc.
- (5) As a hedge or screen to set off parts of the garden.
- (6) To obtain a focal point of interest in a rock garden.
- (7) Form an effective arbor over a walk.
- (8) Make an Espalier Garden House on the lawn.
- (9) For planting in Greenhouses—or tub planting on penthouse roofs.
- (10) Perk up dull corners — hide objects from view, etc.

Espaliers—Make Ideal Holiday Gifts

Plants are always appropriate and pleasing gifts, because they reflect thought on the part of the giver. "Neither Gift nor Giver Forgotten."



Above—A Single U Form Espalier

Apple, Pear, Plum	15 in. wide
Peach, Nectarine, Apricot	24 in. wide
4 to 5 ft. high	\$6.00 ea.
5 - 7 ft. high	\$9.00 ea.



*4-Armed Palmette in bloom in May—
Fruit 4 months later.*

Apple, Pear, Plum 4 ft. wide
 4 to 6 ft. high.....\$12.00 ea.
 6 to 8 feet high.....\$15.00 ea.



Double U-Form Espalier

Peach—Apricot—Nectarine—7 ft. wide—\$15.00 ea.

Espaliers Completely Trained

Easy to Care For

All our varieties are carefully selected for their hardiness and suitability for Espalier training. They will thrive well in any exposure whether east, west, south or north, providing they receive five hours of daily sun. Espalier fruit trees require even less care than other fruit trees. The difficult part, the training of Espaliers has already been done by us, and no previous knowledge or experience is necessary for you to continue growing them successfully on your grounds. The trees are easy to spray and the fruit can be readily harvested.



Six Armed Palmette Verrier Espalier

Apple, Pear, Plum	6 ft. wide
4 to 5 ft. high	\$18.00 ea.
5 to 6 ft. high	\$21.00 ea.

Attract Attention Throughout Long Season

These distinctive fruit trees are a never-failing source of interest from the time the pretty blossoms appear in the Spring—until the richly colored fruit ripens. In the winter, even then, they are extremely decorative, with their lace-like shapely structure.

Espaliers A Dividend Paying Investment

Aside from their beauty and charm, Espalier fruit trees are a good investment. Like vines, they take up practically no room, thus leaving the precious ground space available for flowers and vegetables. In Europe, where they have been grown for centuries, the primary object is fruit rather than display. They yield unusually excellent, large sized fruit, and of much better flavor than ordinary fruit, due to the greater sun exposure penetrating through all the branches and because the trees are grafted onto the proper understock. As the trees grow in size, the fruit crops gradually increase, and pay their owners annual dividends in fruit of the highest quality.



TRIPLE U FORM ESPALIER

Apple, Pear, Plum—6 ft. wide

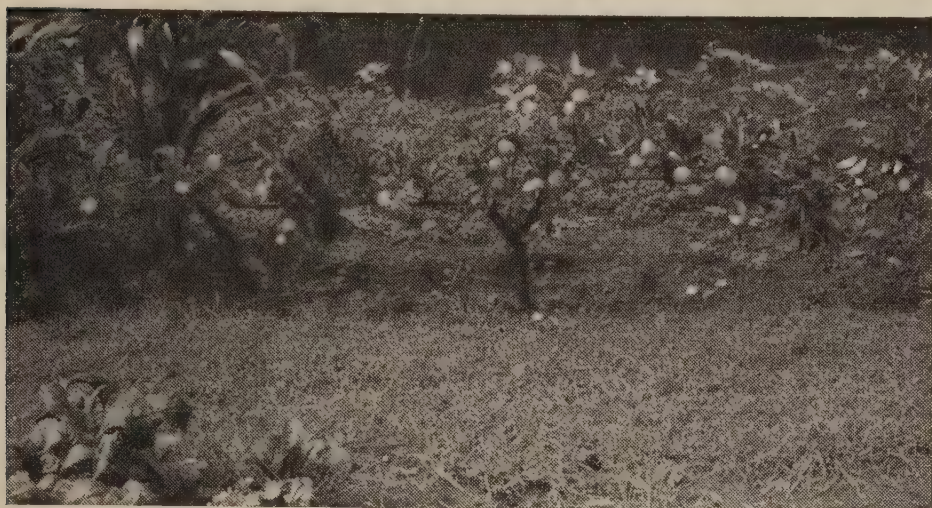
4 to 5 ft.	\$18.00 ea.
5 to 6 ft.	\$21.00 ea.



INDIVIDUAL BELGIAN FENCE ESPALIER
Varieties—Apple, Pear, Plum — \$5.00 each



EIGHT ARMED PALMETTE VERRIER
Apple—8 ft. wide
15 Year Old Specimen
Supply Limited—Write for Prices



SINGLE HORIZONTAL CORDON

Apple, Pear, Plum — 18 in. high

6 to 8 ft. long 8.00 ea.



DOUBLE HORIZONTAL CORDON

Apple, Pear, Plum — 3 to 3½ ft. high

6 to 8 ft. long 12.00 ea.



We can also furnish a limited number of

TRIPLE HORIZONTAL CORDON

Apple, Pear — 4 to 5 ft. high

6 to 8 ft. long \$16.00 ea.

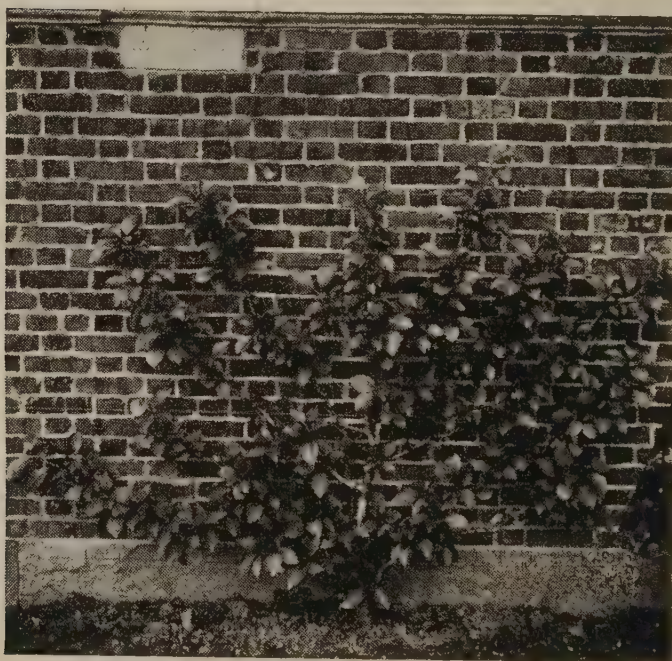


The Single Vertical Cordon, shown at the left, is the simplest Espalier form. It is usually planted in combination with more elaborate forms, especially at the ends of a planting. It may also be planted in rows along a wall, as a screen, along leaders, against house corners, etc. Because of their small size, the trees can be planted as close as one foot. A row of Single Cordons makes an interesting division line between the vegetable and the fruit garden. Cordons are inexpensive and can be freely used in the average home garden.

SINGLE VERTICAL CORDON DWARF TREE

Apple — Pear — Plum

4 to 6 ft. high \$3.75 ea.



FAN SHAPED ESPALIER

Peach, Nectarine, Apricot, Plum

6 ft. spread, 5 ft. high \$10.00 ea.



The Belgian Espalier Fence

This is one of the many interesting and attractive patterns made with Espaliers. Always exquisitely beautiful. It takes 5 trees to obtain a diagonal lattice effect. Each tree is planted 2 feet apart. A Belgian Fence may be extended any desired length. Available in apple, pear and plum. Individual trees, 6 feet high, \$5.00 each.

CUSTOMERS LIKE OUR ESPALIERS

Extracts from a few of many letters received daily:

Dear Mr. Leuthardt:

We received the Six Armed Espalier and it arrived in excellent condition. We certainly are very much pleased with it.

In answer to your letter of May 3rd, we wish that you book the additional order attached for fall delivery.

Very truly yours,

MR. E. C. GEISER, Dover Ohio

Gentlemen:

The Espalier trees you sent me this Spring came through fine.

Is it too late to send others now? It is hard to tell from here how advanced the season up there is. If you can send others, I should like three, Four Armed Palmette Espalier Pear trees. Kindly let me know what to expect about these?

Very truly yours,

ARTHUR BERGER, Landscape Architect
Dallas, Texas

My dear Mr. Leuthardt:

I received the two Espalier Pear trees on April 12th that you shipped me by express on April 9th, and am very much pleased with them as I have been with all the nursery stock you sent me.

The 3 days in passage was quite a difference from the 3 weeks it took last December for the fruit trees you shipped by express to reach me. However, the trees you shipped me last December were dormant and the 3 weeks in a hot baggage car did not seem to do them any harm as they are all alive and flourishing.

The pears have quite a number of pears on them. The other trees had blossoms but it is a little early to tell how much fruit there will be but I did not count on much the first year after planting, especially as I did not get them in nearly as early as I would have liked. I feel sure they will do well next year.

My experiences in dealing with you have been very pleasant. I appreciate the courtesy and personal attention you have given my small orders and I feel sure that the growth of your Nursery is built on reliability and courtesy to all customers small as well as large. I am glad I have dealt with you.

Very sincerely yours,

(COL.) CLIFFORD CABELL EARLY, Atlanta, Georgia

Dear Mr. Leuthardt:

I must say again how happy I am about the beautiful Belgian Fence and that charming Garden House—have never seen anything quite so pretty, and there is nothing on my place that I like so much—I shall be very proud to show it off, and hope that it may bring you many orders. I shall be glad to do my best at all times.

Now I look forward to the Spring more than ever before—I'm always hoping someday you will come up here to see my trees—I feel very humble about them, but I love them dearly and would be proud to show them to you.

Very sincerely,

MARGERY L. ADAMS, Charles Rivers Village, Mass.

Dear Mr. Leuthardt:

We thought you might be interested in seeing how well your trees have done under fairly adverse conditions, and we are sending you pictures of our terrace. The closeup is of the pear tree in bloom. It now has pears on it. The Apple tree which was planted this year bloomed beautifully.

As you can see, the eaves of the house extend so far that only a driving rain can reach the trees, so they have to be watered artificially all the time. The exposure is east.

I'm giving one of your folders to a woman from Battle Creek, Michigan. She was enchanted with the trees and asked for your address. Thank you for sending us such fine trees.

Yours truly

MARGARET F. TRAHERN, Clarksville, Tennessee

SMALL FRUIT

BLUEBERRY

The Blueberry—a beautiful plant—Plant them and give them a chance. In a few years they will be the queens of your home garden. Grow them for their beauty; grow them for their wonderful crops of fine fruit. The bush, the only one that pays its way yearly with a minimum of attention. So beautiful are these new shrubs all through the year that one wonders how any other bush can be compared with them. In the spring, they are veritable drift of creamy bloom, which is followed in midsummer by clusters and spikes of great berries of the bluest blue, unmatched for their luscious flavor. With the approach of fall, their leaves take on handsome colors of rich carmine reds and coppery reds and coppery gold that lasts long after all other shrubs have been denuded of their foliage. Finally, when the garden lies half buried in snow, a clump of blueberry bushes with their pretty red and gold twigs will present a most intriguing patch of misty color just when it is most needed.

Blueberry plants are long lived and will probably outlive us all. The cultivated berry will thrive almost anywhere in our home grounds if treated like other shrubs and bushes, or fruit trees. The fruit is far superior in flavor to the wild berry. All varieties are firm, very blue, meaty and have been known to keep for at least three weeks without sweating or withering.

2 Year Old Size—\$1.95 ea.—3 Plants for \$1.50 ea.

3 Year Old Size— 2.85 ea.—3 Plants for \$2.45 ea.

4 Year Old Size— 3.75 ea.—3 Plants for \$3.50 ea.

5 Year Old Size—Supply Limited—\$4.65 each.

Cabot—early bearer—Grows to a height of 4½ feet.

Pioneer—Ripens shortly after Cabot. Grows 5 feet.

Rubel—Later bearer—Attains a height of 7 feet if allowed its own way.

RASPBERRY

(Strong Rooted, 1 Year No. 1 Plants)

Raspberries—coming immediately after the strawberries, they are the ideal summer fruit. They give big returns of fruit with very little effort.

6 Plants for \$1.80.

Cumberland, Midseason, Black.

Sodus, Midseason, New Purple

Taylor, Midseason, New Red

Indian Summer, Everbearing Red

Marcy, Midseason, Red

Latham, Midseason, Brilliant Red

CURRENTS

Are a wonderful investment—They fruit at a time when other berries are gone—They make extra fine jams and preserves. No garden should be without them.

1 Year Old Size—\$1.00 ea.—3 for \$2.70

2 Year Old Size—\$1.90 ea.—3 for \$5.15

Fays Prolific—Large red currant, productive and hardy.

Red Lake—Large, sweetest, finest red currant. Extra Hardy.

Wilder—Large, bright red berry, very productive. Strong grower.

GRAPE VINES

(Strong Rooted, 2 Year No. 1 Vines)

70c each—3 for \$1.80

Coco—Early, rich red wine grape.

Catawba—Late, dark purplish grape.

Delaware—Midseason, red.

Concord—Midseason, black with blue bloom.

Fredonia—Real early, black.

Moores Early—Black with blue bloom.

Niagara—Midseason, yellowish white.

Portland—Earliest white grape

STRAWBERRIES

(Once Transplanted Heavy Plants)

12 Plants

25 Plants

100 Plants

\$2.25

\$3.00

\$7.50

EVERBEARING STRAWBERRIES

\$3.25

\$5.50

\$10.00

Blakemore, early.

Dorsett, early.

Fairfax, early.

Premier, early.

Big Joe, midseason.

Catskill, midseason.

Chesapeake, midseason.

Gem, Everbearing.

Mastadon, Everbearing.

Instructions Follow

for

Planting and Care

of

Dwarf Fruit Trees

Espalier Trained Fruit Trees

Berry Plants and Vines

ATTENTION!

Care of Fruit Trees on Arrival

Dwarfs and Espaliers

Trees are frequently ruined by lack of care, of bad managing after they fall into the hands of the purchaser. We have known them to lie for days tied up in a bundle just as received from the nursery, or exposed to sun and wind and then set out. With such treatment they cannot be expected to live when one hour's time would have buried them in the ground and placed them beyond danger.

Plant trees immediately upon arrival. Unpack trees without exposing the roots to cold air, winds or sun. The roots should be covered with a wet blanket or straw until they reach their proper placing. If the roots become dried from too long exposure, straw should be spread on the ground and the trees laid upon it, then cover the roots and tops with straw, and the whole well watered. In this condition, they should remain for 48 hours when they will be found fresh as they were in the nursery.

If unable to plant trees when received, dig a trench and heel in by carefully covering the roots with earth and give a copious watering. Trees thus treated can remain in the trenches until ready to plant.

If trees are frozen when received, don't unwrap the bale, but place them in the cellar or some cool, dark room that is frost free and let them remain until all frost is drawn out, usually from 36-48 hours. If no cellar or frost proof room, bury the bundle in sawdust or dirt until thawed. The point is to get the frost entirely out without the sudden exposure of stock to the heat, light, and air. Even if frozen solid, the stock will not be injured if handled in this manner.

The HEELING-IN TRENCH should be a foot deep and located where the ground is moist, well drained and pulverized. Open the bundles so that you can put the trees or plants in one at a time; lean the bodies of the trees over against the bank of earth, shovel fine fresh earth over and around the roots, until they are covered. Pour on water enough to thoroughly dampen the earth around the roots, then fill up the trench until the roots and a few inches of body are covered. Now pack the earth well with feet, and throw on a few shovels of loose earth to prevent baking. The trees will keep perfectly if these directions are followed.

SOIL PREPARATION—Cultivate thoroughly and deeply, raking or harrowing the soil fine to facilitate planting. Dig the hole deeper and larger than necessary to admit the entire root system in their natural position without crowding or cramping the roots. The hole should be at least 4 feet wide and 3 feet deep. Loosen the soil at the bottom of the hole to provide aeration, good drainage, some plant food and a more adaptable condition for root development. If this is neglected, the roots are soon surrounded by a strong wall and you cannot expect them to live very well.

Ordinary garden soil is sufficient for the good growth of fruit trees. Never let manure come in contact with the roots and never use manure at time of planting. Rich soils should be avoided since it impairs the bearing of a fruit tree.

PRUNE BEFORE PLANTING—Both root and top should be pruned at time of planting and before the tree is set in the ground; the neglect of this causes the loss of an immense number of trees. When taken from the nursery, the roots are more or less mutilated, therefore the balance of the trees must be restored by cutting off a portion of the side and top branches. First cut off all broken or bruised roots with a sharp knife in a slanting direction, on the underside; this will cause the wound to heal over readily, by throwing out plenty of fibrous roots at the end.

PLANTING—Plant the trees as soon as they arrive, removing the wrapper. If the holes are not ready when the trees arrive, dig one hole about the size required for a tree, fill it to about six inches of the top with water; then fill it with fine soil and stir it into a pretty puddle. Then take the trees, prune the roots and top as directed above and place them in the puddle so that the roots are well covered; let them remain until the hole is ready and remove one by one as they are needed.

Use good top soil for filling in the bottom of the hole and around the roots, slanting it a little to the southwest, leaving a little mound in the center of the hole; place the tree in position and arrange it to the proper depth by filling in or raking back the soil to or from where the tree will stand, then fill in fine, mellow soil between and around the roots with the hand, arranging all the roots in their natural position, and packing in the soil carefully around them. When the roots are barely covered, sprinkle on not less than a half bucket of water to moisten the soil and settle it among the roots; then fill to the top and press down the earth around the tree with the foot; throw a bucket of water around each tree to settle the ground. A covering of coarse manure, straw, marsh or hay, during the first season, will effectually prevent injury from drought and is a benefit at all times.

DEPTH TO PLANT—All fruit trees should be planted with the graft one inch above the surface. The graft is the joining union between the trunk's base and root system. It is easily recognized by its onion-like shape. Some grafts are large, while others are hard to detect.

MULCHING—is of vital importance and should never be neglected; the material used every third year should be coarse stable manure, for intervening years such materials as straws, grass, hay, or sawdust; any of above to be spread around the tree for a space of from four to five feet and three to six inches deep. This mulch should be placed around the trees about December 1st each year and left until about May 10th when manure should be removed and if other materials are used it should be removed also, if land is to be cultivated.

But, if the orchard cannot be cultivated, the mulch material named above except manure should be left around the trees all summer, to hold moisture and keep down grass and weeds. The object of mulching in early winter is to keep the ground from thawing around the roots until late in spring, as more trees die from alternate freezing and thawing of roots than from all other causes, and the mulch will carry the roots through in perfect condition, if enough is kept on.

AFTER CULTURE—Cultivate well in the early part of the summer and in the month of October. The principal of cultivation is that the loose and pulverized soil on the surface prevents the evaporation of moisture and keeps weeds in check. It is important to attend annually to surface drainage.

Wood ashes may be applied if hard-pan soil is the problem, otherwise not necessary.

Bone dust, and plaster are excellent manure and stimulant for trees when used on the surface. No manure of any kind should be put in the hole with the tree; it is very injurious, causing a rank growth, making the tree tender and consequently short lived.

Cow manure is unquestionably the best fertilizer for all kinds of fruit trees, but they will be benefitted by the liberal use of most any well-rotted manure, and planters should bear in mind that it pays both in the quality and quantity of the fruit to fertilize fruit trees.

The only safe way to apply fertilizers to the tree after planted is to rake them into the ground—not in actual intimate contact with the roots. When so applied, the moisture in the ground dissolves them and makes dilute solutions which feed the tree instead of damaging the roots. Fertilizing in the fall acts as a winter mulch and enriches the soil for the next season's showing.

WATERING—Avoid watering fruit trees for too much water harms the root system and prevents the trees coming into bearing. Fruit trees seldom require watering, except in very dry weather, then artificial watering is advised. If a drought occurs, trees bearing fruit must be watered. One good watering once a week at night and repeated the next morning, is far better than ten times as often if improperly done. More trees are killed than saved by injudicious watering. The right way is to draw away a little of the soil from the side of the tree, and allow all the water that the soil will absorb to soak in, then replace the dry soil. Keep the surface soil always loose to avoid crusts.

THINNING OUT THE FRUIT—Many varieties of apples, pears, peaches, plums, nectarines, and apricots are naturally so productive that they set more fruit than the tree can properly mature. When this occurs, it is highly important to pick off the fruit. As soon as the fruit is fairly set, as a general rule, pick off the fruit with a spacing of 4 to 5 inches between the fruit. Very young trees should not be allowed to bear too heavily.

WINTER CARE—Rabbits, cats, Rodents and their control:

1. To protect a tree in winter from depredators, it would be advisable to wrap several thicknesses of newspapers or tar paper around the trunk and lower branches of the tree in the fall. The paper should not be tied too tightly and it should be removed in the spring.

2. Another method to prevent damages by animals, is to treat the trunk with a repellent solution. The copper Soap Rodent Repellent is a dark green paint-like material which can easily be applied to a tree or shrub, giving a repellent protective coating. Has fine lasting qualities, and will remain on trees throughout the winter and spring. This is endorsed and used by the Michigan State College. You may obtain this solution from M. J. Beck, 510 N. Cedar Street, Lansing, Michigan.

ACID SOILS—Use lime. Lime is not a fertilizer, but is of benefit to the soil through its physical and chemical effects. Should be applied once every three years to land which is inclined to become sour. The most practical type of lime to use is raw ground limestone and air-slacked lime. Limestone may be bought, is safe to use and is effective. Lime is a safe investment and should be added to the soil whether sweet or sour because it will improve the flavor and quality of the fruit.

SWEET SOIL—may be changed to acid by adding sulphate of potash or super-phosphate to the soil. Often the addition of leafmold, peat or saw dust, all of which possesses acid-producing effect, is all that is required.

CLAY or SANDY SOIL—Add cow manure.

PEACH BORER

This pest attacks peach, apricot, nectarine, and cherry trees. When a gum-like substance first appears on the trunk of the tree, this is evidence that the borer is present and must be eliminated at once. The gum is the bleeding of the tree after attacked by the borer and if not checked, the tree will eventually die. The moth lays her eggs around July 1st until early August. Therefore, watch for the first sign of gum every year to avoid complications.

To eradicate them, take a piece of wire or a knife and follow the channel until they are located. Most likely, there are more than one—look carefully. If the wound should be a large one, we suggest painting it to avoid infections.

Prevention of Borer Attacking a Tree—

Dig around the base of the trunk for about 2 inches and then cover this with some animal fat or some other fatty substance up about 10 inches, this forming a coat and preventing the borer from getting into the tree. This should be done during the month of August. The purpose of using some animal fat is that it will not injure the bark of the tree or the tree itself.

FRUIT SPRAY CHART

SPRAYING—The amateur home gardener will find that one or more of the recently introduced preparations now on the market are practical to use. Nearly every type necessary is sold in convenient packages sufficiently large to keep the garden well sprayed for the entire season. The directions for use are plainly marked on all packages. To produce the highest results, spraying is of vital importance.

There are two distinct groups of insects—those known as the chewing or biting, and the sucking. The chewing insects are beetles, and worms that damage plants by eating holes into the leaves, unopened buds, and flower petals. To combat this type it is necessary to use some form of stomach poison spray, such as arsenate of lead, paris green or black arrow.

Sucking insects are those that do damage by sucking nourishment from the leaves, causing them to curl, wither and eventually drop. Some form of contact spray is necessary. For these pests, there are several forms of nicotine solutions commonly used, such as black leaf 40, black arrow dust, lime sulphur wash.

Diseases such as blight, fungus, rot, scab, etc., are combatted mostly by the use of a fungicide either Bordeaux Mixture or Lime Sulphur.

The most important and most effective winter spray is Lime Sulphur Spray. It will act as a beneficial cleanser for almost all trees. Used when the trees are fully dormant, it is easily applied, and fully effectual if done at all carefully, because no foliage obstructs a thorough covering of all parts of the branches and individual buds. It is the only effective spray for the eradication of blister mite on pears, the curl disease on peaches and all the various scale insects affecting our different fruit trees.

YOUR SPECIAL ATTENTION REQUESTED PLEASE

SCALE plays a very treacherous part on fruit trees, including Espalier Fruit trees. Through our many years of experimenting, we discovered scale to be the major cause for the death of 90% of all fruit trees.

It is easily recognized by its round or oyster-shaped shells on the bark or branches which spreads and smothers the breathing pores upon which the tree depends to inhale during the winter months. This scale protects the small live eggs beneath it which survive throughout the winter by sucking the sap from the tree. The sap, which is the blood of the tree, when withdrawn, eventually kills the tree.

Scale is very injurious to the life of fruit trees, and we strongly urge you to rid of scale at first appearance. Scale forms only during the growing season. It is caused by neighboring plants such as ivy, pachysandra, evonymous, lilac and other shrubs which are great carriers of scale. Although scale does total damage to a tree, the amateur will find it very easy to overcome.

If signs of scale appear on a tree that is leafed out, the most urgent thing to do is to control its spread by riding of the scale which protects the eggs over the winter period, and since no scale will develop over winter, these eggs will not be able to protect themselves and they will be checked. To destroy them, take a piece of burlap and rub off the scale as though you were giving the branches a shoe shine. Be sure to get between the twigs, crotches, and angles of the limbs where scale is most dangerous to the welfare of the tree. If you find the burlap difficult to use at certain places, then use a tooth brush with firm or stiff bristles. This procedure will eradicate the scale but will not kill the eggs entirely.

Then, in the spring, to kill all the eggs, use a Lime Sulphur Spray. This should be applied just before vegetation starts, to be effective. Lime sulphur should be applied on a clear sunny day when there is no danger of freezing. Lime sulphur should not be applied on a freezing day because it will freeze to the bark and will not kill the eggs alone, but also injures the bark. To be guided accordingly, apply the spray on a mild day when the sun will dry it quickly. This is the best spray for scale.

Scale if not checked develops very rapidly and in a short time covers the entire area of the tree. Hence, it is vitally important to guard your trees against scale. Please don't ignore our warning, if you expect fine, healthy fruit bearing trees.

APPLE SPRAY

Spray No. 1—Dormant Spray

(The treatment is made after the buds have begun to swell, but before they show green at the tips.)

Material: 3% oil emulsion; or 1-15 miscible oil.

Control: Scale

Spray No. 2—Delayed Dormant Spray

(When the leaves of the blossom buds are out from 1-4 to 1-2 inch.)

Material: Add Nicotine Sulphate, 2 tsps. per gal., to above Spray No. 1.

Control: Aphids—Red Bug—Bud Moth.

Spray No. 3—Pre-Blossom Spray

(This spray applied between the delayed dormant spray and the bloom, are timed primarily for scab control.)

Material: Lime-Sulphur and water.

Spray No. 4—Calyx Spray

When 75% of the petals have fallen)

Material: Lime-Sulphur and water; sulphur dust; or wettable Sulphur to reduce the danger of spray injury.

Control: Fruit Blotch.

Spray No. 5—Post Calyx Spray

(Ten days after petals fall and again four weeks after petals falls.)

Material: Lime Sulphur, Water, or Sulphur Dust, or Wettable Sulphur.

Control: Black Rot; Bitter Rot.

Rusts—Damage leaves, blossom end of fruit, galls on cedars.

Material: Lime Sulphur and water; eradicate cedars or cut off cedar galls before orange horns appear.

Fire Blight—Shoots and branches blacken.

Material: Spray at full bloom with 1-3-50 Bordeaux.

Cut out cankers, prune out diseased branches and destroy infected fruit spurs.

Codling Moth—White worm which eats way to the core.

Leaf Roller—Leaves webbed together and ragged holes.

Curculio—Fly stings fruit.

Material for three pests: Lime sulphur, water, and lead arsenate.

Apple Magot—Yellow worm makes brown tunnels in fruit.

Material: Spray with Lead Arsenate when flies emerge late in June; destroy dropped apples.

PEACH, NECTARINE, APRICOT SPRAY

Spray No. 1—Dormant Spray or Leaf Curl Spray

(In late fall or early spring, before the buds swell.)

Material: Lime Sulphur and water

Control: San Jose Scale, Leaf Curl, Brown Rot.

Spray No. 2—Pre-Blossom Spray

(When the blossoms show pink or a little earlier if a rain period threatens).

Material: Lime Sulphur, Water

Control: Brown Rot blossom blight.

Spray No. 3—Calyx Spray or Shuck Spray

(When the shucks are falling from the young fruit that are going to set.)

Material: Lead Arsenate $1\frac{1}{4}$ tablespoonful, plus 2 or 3 tablespoonfuls of hydrated lime to the gallon of water or diluted spray mixture, for chewing insects; and add nicotine sulphate 1 teaspoonful to the gallon of water or spray mixture to control sucking insects.

Spray No. 4—Summer Spray

(Two or three weeks before the fruit ripens)

Material: Wettable Sulphur and Water.

Control: Brown rot and scab.

PEAR SPRAY

Spray No. 1—Dormant Spray

(Early in the spring when the flies appear on the twigs and are ready to lay eggs and the buds are not yet showing green.)

Material—3% oil emulsion; or 1-15 miscible oil.

Control: Scale.

Spray No. 2—Pre-Blossom Spray

(When the blossom buds begin to separate in the cluster.)

Material: Lime, Sulphur and Water.

Control: Scab

Spray No. 3—Calyx Spray

(As the last of the petals are falling.)

Material: Lime Sulphur, water, Lead Arsenate.

Control: Coddling Moth, leaf-roller, green fruit worm, or scab.

Spray No. 4—Summer Spray (in July)

Material: Nicotine Sulphate and Soap.

Fire Blight—Shoots and branches blacken as if done by fire. Very serious. Spray at full bloom with 1-3-50 Bordeaux. Cut out canker, prune out diseased branches and destroy infected fruit spurs.

Psylla—Leaves turn brown, drop, from sucking of tiny cicada-like insects; sooty mold in honeydew.

Material: Dormant oil before buds break; lead arsenate and nicotine in calyx spray, and 3 weeks later.

Blister Mite—Brownish blisters on underside leaves.

Material: Dormant oil spray.

Pear Thrips—Buds shrivel in very early spring.

Material: Nicotine-oil spray when thrips appear.

Slug—Slimy green larvae skeletonize leaves.

Material: Lead Arsenate when slugs are first seen.

CHERRY SPRAY

Scale—Dormant spray, lime-sulphur or oil, as for apple.

Cherry Aphid—Tar-oil dormant spray while buds are brown, or nicotine sulphate at green-tip stage.

Brown Rot—Wettable sulphur: (1) As husks begin to split from small fruits; (2) 10 days later.

Curculio—Add 1 tbs. lead arsenate, 5 tbsps. lime to each gal. of sulphur spray used for brown rot.

Leaf Spot—Turn under fallen leaves; spray foliage as for brown rot plus lime-sulphur (6 tbsps. per gal.), when fruit first shows color and immediately after harvest.

PLUM

Scale—Dormant Oil Spray.

Black Knot—Cut out knots 4 ins. below swelling.

Brown Rot, Curculio, Leaf Spot—See Cherry Spray.

BORERKIL—An effective Method for controlling Borers. It is an excellent insecticide. This paste contains Nicotine and is injected into the wound. You may order Borerkill from the following address direct: Lethelin Products Company, Inc., Mount Vernon, New York.

Pruning Dwarf Fruit Trees

AFTER PRUNING—The great majority of people do not take proper care of their trees after planting. This is a great mistake. If a tree does not receive the right kind of care, and enough of it when young, it will never attain to a healthy old age. Very much has been said about pruning by various authorities. Judging from these and our own experience and observations, we would say: Looking at the health and vigor of a tree, the best time to prune is just before sap begins to run, early in the spring.

Summer pruning is done to check rank growth and promote fruitfulness. This should be done very cautiously, if at all, as too much pruning will harm the tree. When we are in a hurry to have a tree bear, we pinch off the bud on the end of the limbs a little in summer. Do not fear to prune the tree when it is young—that is, when it is not growing—and keep pruning as long as it lives.

PRUNING APPLES—Dwarf Apples need little pruning. It will suffice to clip the longest branches back two or three buds. Also when there is an oversized branch or bruised branch which gives the tree a one-sided appearance, cut them back to the size of the other branches.

PRUNING PEARS, PLUMS, APRICOTS—These varieties should also have the sides of their crown reduced about one-fourth of their length. Some of these branches are stronger than others and the general rule is to reduce these overgrown branches to the length of the average remaining branches. A good guide is to give the tree a pleasant, even and somewhat pyramidal form.

PRUNING CHERRIES—Of all fruit trees, cherries have the greatest amount of vitality when transplanted. Often up to 50% of all unpruned cherry trees are killed. The pruning of the cherries reduces this great loss considerably. One year old cherries should be reduced to one-third of their size. Two and three year old trees should have all the side branches of their crown reduced to about one-third of their size.

PRUNING NUTS, QUINCES—These varieties require no pruning at time of their planting.

PRUNING—PEACHES AND NECTARINES

There is a general opinion among the public that the peach tree is very short lived and therefore, not worthwhile planting. This is decidedly wrong. The peach and nectarine trees are some of the most rapid growing trees and reach their ultimate height within 4-5 years.

Now, since peaches or nectarines grow young wood and fruit only on wood that has been grown the previous year, the tree dies or withers away in such a short time if not pruned.

It is absolutely essential to prune the trees severely every spring in order to obtain the necessary young wood and fruit. If this pruning is applied correctly, a peach tree can live from 18 to 30 years and produce a full crop of large fine fruit every year. Such a pruning is neither complicated nor difficult to apply on dwarf peach or nectarine trees.

The first step which is most important, must be applied to all peach and nectarine fruit trees, regardless if they are dwarf or not, at time of planting. A one year old tree must be pruned back radically to about 15 to 24 inches above the graft.

On two or three year old trees, no branches should remain that are higher than 2 or 3 feet from the ground. Young side branches that have been grown the previous year, should be reduced back to one or two buds.

A peach or nectarine tree, pruned in this manner, will develop for this coming spring, from twice to three times and even more the amount of wood that has been cut away. It is on this young wood only that you will grow your fruit buds for the following season.

The ground must be well-drained and kept clean and mellow. Give them an occasional dressing of wood ashes. Placed around the body of the tree is sure protection against invasion of the peach borer.

Young trees should be well mulched every spring. If a heavy mulch is placed about the trees after the ground is frozen, it will retard the growth in early spring, and often insure a crop of fruit. Keep the tree in good shape and you will have splendid returns.

1 year old peach or nectarine cut
back 15 inches from the ground.



2 or 3 year old peach
or nectarine tree before
planting



Before



After

Be sure to
cut back
both main
and side
branches
when
planting

2 or 3 year old tree after
planted.

Care of Espalier Dwarf Trained Fruit Trees

PLANTING—The hole should be at least 2½ feet square and 2 feet deep. Plant the tree as it arrives, removing the wrapper. Spread the roots in their natural position to avoid cramping. Cut away any bruised roots. Place top soil at the bottom of the hole. Pack soil firmly about the roots. Soak well with water to avoid air pockets. Watering should be done in the evening or early morning. Set the tree at least one foot away from the wall. Plant the tree deep enough so that the graft is one inch above the ground. For details, we refer you to "Care of Fruit Trees" found on the former pages of this booklet.

FASTENING—Support of some kind is necessary to protect the branches from severe winter winds and weight of fruit. There are several methods of fastening Espalier Trees. The most popular methods are described below:

One Espalier Tree Planted Against Wall or Fence—

1. Drive spikes into the wall allowing 6 inches to protrude from the wall. The spikes should be set behind the end leaders.
2. Stretch wire horizontally and attach wire to the spikes.
3. The first series of wire is placed a few inches below the horizontal branch for best results. Hence, the vertical leaders will not have a tendency to spring upward. The second series of wire should be stretched below the center U. The third series of wire should be stretched at a point where you intend the tree to ultimately reach.
4. Tie the main leaders carefully to the wires with tarred twine, raffia or willow.

Two or more Espalier Trees Planted Against a Wall or Fence—

1. At either end of planting, drive spikes into wall, behind the main leaders, allowing 6 inches to protrude.
2. If several trees are planted, spikes may be set at intervals, wherever support is needed.
3. The first set of spikes should be placed 18 inches above the ground. Place spikes at points where in your estimation the trees will require most support.
4. Tie leaders to wire with raffia, tarred twine or willow.

NOTE: To avoid spikes driven into the wall, drive 2x2 inch stakes (10 ft. lengths) into the ground, at either end of the planting. These stakes should be placed as close as possible to the wall. Then run wire horizontally and fasten to the stakes by means of hook nails. If the planting consists of several trees, place additional stakes at intervals where support is needed. Of course, spikes driven into wall give best results.

One or More Espalier Trees Planted in the Open—

1. At either end of the planting, drive two cedar posts, bamboo sticks or pipes into the ground. Place posts or supports behind each terminal leader. Use 10 feet length posts, allowing 2 feet to be driven into the ground. If cedar posts are used, sharpen the bottom end to a point for best results.
2. If planting consists of several trees, additional posts may be set at intervals.
3. String horizontally, three or four rows of wire from one post to the other. Place lower of first wire, 18 inches above the ground. Place second, third, etc.; series of wires, 24 inches above each other.
4. Tie leaders to the wires by means of tarred twine or raffia.

One or More Horizontal Cordon Espaliers Planted Against a Wall or in the Open—

1. Set the posts 20 feet apart from each other and drive posts 2 feet deep. If cedar posts are used, sharpen bottom end to facilitate planting. For Single Horizontal Cordons, use 3 ft. length posts; for Double Horizontal Cordons, use 4 feet. lengths; and for Three Tiered Cordons, use 6 ft. lengths.

2. Wire or wires (depending upon the number of horizontal leaders) should be placed behind each horizontal leader.

3. Run wire horizontally and attach to posts by means of hook nails.

4. Tie leaders to wire with raffia or tarred twine.

5. Horizontal Cordons should be planted at a distance of 15 feet apart from each other to obtain best results.

To Support a Single Tree Against a Wall or in the Open—

Other than wire supports, a trellis of wooden laths can also be used for support. The trellis made with 2 inch laths nailed together in the form of squares somewhat like a checker board, and painted green or white will make a very attractive background. The leaders are fastened to the trellis with raffia, willow or tarred twine.

Fastening—Fan Shaped Espaliers—

1. From the center or trunk of the tree, mark off 8 feet on either side. Then drive spikes into the wall. Place spikes at a distance of 18 inches apart. Wire should be stretched lengthwise, passing in front of the tree branches and attached to the spikes.

Planting a Belgian Fence—

1. Plant trees at a distance of exactly 2 feet apart from each other in order to obtain perfect square with the branches. (It is perfectly alright to plant a Belgian Fence with trees spaced 3 feet apart from each other. This type of planting will give an oblique effect rather than a diamond lattice pattern.)

2. Plant the trees so that the graft comes one inch above the surface.

3. The clutch of each tree should be set all on the same level or parallel line. This step is most essential since the perfection of the entire lattice work is based upon this one fundamental.

4. Should a clutch of a tree come higher than necessary, plant the tree deeper in the ground until the clutch is adjusted to match the other trees.

5. Drive posts into the ground of either cedar or pipe. One at each end of the row of planting. The posts should be as high as you wish the planting to ultimately reach. String horizontally three rows of galvanized wire and attach to the posts. The first wire should be 18 inches from the ground. The second wire should be one foot above the first wire. The third wire should be one foot above the second wire. Fasten wire to posts. (If cedar posts are used, hook nails are used to hold wire securely to posts.) Then tie branches to wire with raffia.

5b. Or, have supports made to order from your local blacksmith. Iron rods, the thickness of a pencil are shaped and soldered together to match the individual tree. One is placed behind each tree. The branches are tied to the rods with raffia. This method of support is an expensive proposition, but it gives an extremely neat effect since all the framework is hidden from view.

6. As a general rule, a Belgian Fence in time will ultimately attain a height of 15 feet if allowed its own way. But, the Fence may be kept within limited height. As soon as the trees have grown their leaders to the desired height, train the tops by bending slowly into horizontal position, giving the fence that finished effect. After leaders are bent to position, tie them to their supports with raffia.

Pruning Vertical Branched Espalier Trees—Apple, Pear, Plum, Cherry—

All side shoots longer than 4 inches should be cut back during the summer to 4 inches. But, should bearing spurs appear on a side shoot which is longer than 4 inches, don't prune that shoot, but allow it to bear the fruit first, for it takes 3 years for a tree to produce a single bearing spur. This pruning should be done about once a month during July, August and September.

Should the leaders become very compact with foliage thin the side shoots out, leaving spaces between bearing spurs 2 or 3 inches.

Prune the top of the main leaders in the early spring or winter when the tree is dormant. Cut previous year's top growth back to half its length with a sharp knife in a slanting position. The inner leaders should be kept about 6 inches shorter than the two end leaders. After the desired height has been attained, cut down to one eye each year; should they become too high, cut down below level of new growth, thus making space for future new growth. Espaliers can be allowed to grow almost any desired height, say from 5 to 12 feet. The pruning of the top leaders is very essential for it checks the future growth of the tree.

Pruning Horizontal Cordon Espalier Trees — Apple, Pear, Plum, Cherry.

Cut back side shoots to 6 inches. As a general rule, the fruit of a Horizontal Cordon is borne on the shoots that develop along the outer sides of the leader. Therefore, if thinning out is necessary, do so on the shoots which grow on the top or upper part of the main leader. Never prune the ends of the Cordon, unless the tree has reached its desired length, as such pruning prevents tree from making new growth.

Pruning All Espalier Peach, Nectarine and Apricot Trees—

The essential pruning should be done during the summer. Pinch every new shoot to two eyes, in doing so, two new young branches will be obtained. In the following spring one of these branches should be allowed to bloom, prune the other one down to two eyes. This one gives you the two young branches for the coming year. This procedure done every year creates a continual new supply of young wood. It prevents the side branches from becoming too big and taking all the strength. By following this method, the era of productivity of a peach tree is almost doubled. The bearing spurs are easily recognized during the dormant period, as all the blooming eyes are doubled. This enables one to decide more easily which branch to leave. Since Peach, Nectarine and Apricot trees all bear fruit only on the new wood made the previous year, this pruning must be followed very closely, if fruit is desired. After leaders have attained 15 inches, tie back like backbone of a fish so as to allow the sunshine and light to reach the eyes as the bearing eyes develop on the new wood during September and October, when exposed to the sun.

Pruning Fan Shaped Espalier Trees—Apple, Pear, Plum—

Cut all shoots developing along the leaders which form the framework for the Espalier tree, back to 8 inches, once a month July, August and September. Don't prune off any shoots shorter than 8 inches.

The tree may be allowed to grow any size desired by trimming the ends of the leaders during the summer months.

In addition, any side shoots that protrude outward, should be cut back to 4 inches as they will never bear fruit.

Pruning Fan Shaped Espalier Trees—Peach, Nectarine, Apricot

Follow instructions for "Pruning All Espalier Peach, Nectarine and Apricot Trees". In addition, any side shoots that develop outward, cut the shoots back to four inches.

Important!

Pruning Espalier Trees every year is essentially important and it is the main key in obtaining successful results. Pruning avoids excess wood, helps one to enjoy picking a larger and far superior crop of fruit every year and brings out the symmetrical pattern of the Espalier Tree. When an Espalier Tree makes too much wood, not only is the beauty and effectiveness of the Espalier lost, but the fruit crop will result in a scanty yield, if any at all.

Leaders or Arms are the main branches or skeleton of the Espalier Tree which gives the tree its symmetrical pattern.

Side shoots are the twigs which develop along the main leaders or arms.

The Elbow is that part of the leader or arm which forms the curve.

A Bearing Spur is a small round swollen-like bud usually surrounded by a cluster of leaves, which eventually forms the fruit.

1. Use 8-inch galvanized spikes for stone, brick, or cement walls, allowing 6 inches to protrude from the wall. Use a star drill to avoid wall damage.

2. Use flanges for wooden or clapboard walls to prevent splitting. Flanges are 6-inch long pipes, 1-inch in diameter, fastened to the wall by means of screws. These may be painted to match the wall.

3. Use galvanized number 10 wire for best results.

4. Turnbuckles are used when the wire is loose and needs to be tightened for firm plantings.

5. Hook nails are used to fasten wire to any kind of wooden posts for neatest effect. Use 3-inch cedar posts of whatever lengths necessary.

6. For longer last, all posts inserted in the ground should be painted with creosote.

7. The wire, spikes, turnbuckles, hook nails, etc., can be purchased at any hardware store. Flanges can be obtained at any plumbing supply company. Cedar posts may be obtained at a lumber mill.

Type of Espalier	Number of spikes or flanges required
Single U Form	4
Four Armed	6
Six Armed	8
Eight Armed	10



Henry Leuthardt tending an Espalier—All photos shown in catalog taken on different clients' estates.

Planting and Care of Small Berries

GRAPE VINES

The Grape, while it loves moisture, must have well-drained land, and there should be free exposure to sun and air. Annual and careful pruning in early spring when fully dormant is essential to the production of good grapes, and if the land is poor, manuring must not be forgotten.

Grapes, like peach trees, grow their fruit only on one year old canes. It is futile to plant grape vines older than one or two years old. These also must be pruned back severely like the peaches. The grapes, like the peach, will never bear fruit the first year after planting, regardless how old a vine you may plant. Most of the old wood must be eliminated to get live prolonged growth. Cut tops back to 6 inches above the ground. Plant the "graft" below the surface.

Plant Grape Vines 8x8 feet apart each way.

BLUEBERRIES

Blueberries require an acid soil containing an abundance of peat moss or rotted leaf mold or other partially rotted vegetable matter and sand. They need moist loose soil, free from rock. If too heavy with clay, sand will improve it. They are self-supporting shrubs. For fall planting, be sure to bring the earth well up around the plant. This will protect the root system and prevent it from heaving during the winter.

Blueberry roots are distributed just under the surface of the soil. For this reason, cultivation should be very shallow, not over two inches deep, so as to leave roots undisturbed. Keep watch grass and other weeds away from plants as it harbors white grubs that feed on the berry roots, and weeds will absorb the moisture needed by your plants. Don't use lime on soil intended for blueberries, for lime will sweeten the soil and make it unfit for this purpose. Avoid barnyard manure on your plants because it causes fungus disease.

They require no pruning for the first few years after planting. But, when plants are half grown or get dense and overbear, thus producing an inferior size of fruit, then trim out the weak branches. As a fertilizer, a mulch of oak leaves or peat moss is excellent. Plant 4x4 feet apart each way.

IMPORTANT—Blueberries require acid soil. If the nature of the soil is not acid, we strongly urge you to refrain from planting them if you wish to avoid future dissatisfaction.

We noted several instances where gardeners went through great efforts and heavy expenses to prepare a bed for Blueberries by turning sweet soil to acid. Frankly, the first year, the plants produced an amazing crop of extra large berries of the finest quality. The following years, the crop was very discouraging for the Blueberry bushes lost their vitality and the fruit crop was small and scanty. Why? Because, regardless how much one tries to change alkaline soil to acid, it is in vain, for the simple reason rains or other elementary influences which are unconscious to the human eye, washes away the acid contents present in the soil and three or four weeks later turns the soil back to its original alkaline state.

Undoubtedly, you know when it rains, soils never remain stationary, so it is only logical that the large area of sweet soil will gradually mix with the nearby small area of acid soil causing it to result to alkaline.

But, if you insist on planting Blueberries, then choose an elevated location so that the rains cannot wash surrounding sweet soils into that area specially prepared with acid contents for the growth of Blueberries.

RASPBERRIES

Should be planted four feet apart each way. In training, allow only a few canes to grow from each plant, cutting away all suckers to throw the strength into the stalks for bearing; all old canes should be removed when the bearing season is over.

A good gravelly soil, or a deep moist loam is generally considered best for the raspberry, yet the plants do well on light or even sandy loam, and on such soil the fruit will ripen some days earlier. The red varieties should not be placed on hard, clayey land, nor on low, wet soil. The black varieties do very well on clayey soil.

Newly set plants should be hoed or cultivated quite frequently, especially early in the season, as it is important that a good start should be obtained the first year. It is important that all weeds should be kept down the first as well as the following seasons. Cultivate very shallow to prevent injury to the roots. Old stable manure is the best fertilizer for general use. On light soils it is best to apply it as a mulch.

The first season only two or three shoots or canes should be allowed to grow from each root or hill. In midsummer, when the canes have reached a height of about two feet, the top should be pinched off with the thumb and finger. This will cause the canes to throw out laterals. These branches should likewise be cut back when they have made a growth of about one foot from the canes. If this summer pruning is neglected until the bushes get to be three or four feet high, shears should be used to cut them back to within two and one-half feet of the ground. It is not necessary to head in all varieties during the summer. Some prefer driving a stake in each hill to which the bushes can be tied to keep them from dropping to the ground when fruiting. The bushes can be allowed to grow, and in the late fall the surplus suckers and the old fruit canes can be cut out, and the suckers that are left for the next year's crop cut back to within two and one-half feet of the ground.

CURRANTS

Curants should be planted four feet apart. Sawdust should be used as a mulch. The currant flourishes in almost every kind of soil, but to have the fruit in perfection, plant in rich, deep soil, and give good annual pruning and cultivation. When plants are grown as stools or bunches the older and feebler suckers should be cut out, such as crowd the plant.

STRAWBERRIES

They do best on soil of light sandy loam, retaining the summer moisture easily is best. Old soil, may be improved by the plowing of green crop, wheat, clover or vegetables. If the soil is not already rich, it may be made so with well rotted manure. The hoe must be used freely, not only to keep the weeds out, but to have always a layer of finely pulverized soil as a mulch on the top. In early winter when the ground is frozen, cover the whole with long straw, which should be removed from the plant in the spring but allowed to remain between the rows as a mulch to keep the berries clean next summer. By planting alternate rows of two different varieties, one will enjoy a larger and better crop of luscious berries every year.

MEMORANDUM

MEMORANDUM

OUR GUARANTEE

Our Nurseries are inspected by authorized government inspectors annually and all provincial regulations complied with. A State Certificate of Inspection accompanies each shipment. We guarantee all nursery stock sold by us to be true to name, free from insect pests or plant disease. Our hardy, northern grown stock is of first quality and under ordinary conditions will grow well wherever other fruit trees thrive. Continued growth depends on soil, weather conditions, planting and after care.

After 10 days, it is mutually understood that the nursery stock is satisfactory. However, any complaint about failure to start growth must be made in writing, within six months from date of purchase and we will replace nursery stock at half price with the following understanding: That the bill is to be paid within 30 days after stock has been received, that our planting suggestions are followed, and the death of the tree was not caused through any visible injury done by mice, rabbits or other depredators beyond our control.

State of New York

DEPARTMENT of AGRICULTURE and MARKETS

C. Chester Du Mond, *Commissioner*

Certificate of Inspection of Nursery Stock

THIS IS TO CERTIFY that the nursery stock of HENRY LEUTHARDT of PORT CHESTER, County of WEST-CHESTER, State of New York, has been duly examined in compliance with the Agriculture and Markets Law and has been found to be apparently free from all injurious insects and plant disease. This certificate is valid until October 1, 1946, unless revoked before that date.

Dated, Albany, N. Y., October 14, 1945.

C. CHESTER DU MOND, *Commissioner*

A. B. BUCHHOLZ, *Director, Bureau Plant Industry*

Substitutions

We do not substitute without permission to do so. However, it is often in the interest of the buyer to grant us this option. If we are unable to supply any particular variety, we generally can furnish some similar variety of equal or better merits. In this way late orders can be handled promptly and filled complete. Just state on orders, "We permit you to substitute if necessary."

NOTE—Brief Planting Instructions are printed on the back side of our shipping tag attached to each shipment.

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